



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB 2000-0028

May 3, 2000

Mr. Fred Patron
Federal Highway Administration
The Equitable Center, Suite 100
530 Center Street NE
Salem, OR 97301

Re: Biological Opinion for the West Birch Creek Bridge Replacement Project

Dear Mr. Patron:

The National Marine Fisheries Service (NMFS) has enclosed the Biological Opinion (Opinion) that addresses your proposed project to replace the bridge over West Birch Creek in the City of Pilot Rock, Umatilla County, Oregon. NMFS received the Biological Assessment (BA) and request for formal consultation on March 21, 2000. The Federal Highway Administration (FHWA) is funding the proposed repair and is the lead action agency. Oregon Department of Transportation (ODOT) is the designer for the project, and will administer the construction contract.

This Opinion considers the potential effects of the project on the Middle Columbia River steelhead (*Oncorhynchus mykiss*) which occur in the proposed project area. Middle Columbia River steelhead were listed as threatened under the Endangered Species Act on March 25, 1999 (64 FR 14517), and critical habitat has been designated (65 FR 7764). This opinion constitutes formal consultation for the Middle Columbia River steelhead. The NMFS concludes that the proposed action is not likely to jeopardize the subject species or destroy or adversely modify critical habitat. Included in the enclosed Opinion is an incidental take statement with terms and conditions to minimize the take of the subject species.



If you have any questions regarding this letter, please contact Nancy Munn in the Oregon State Branch Office at (503) 231-6269.

Sincerely,



William Stelle, Jr.
Regional Administrator

cc: Rose Owens - ODOT
 Randy Floyd - ODOT (Biological Opinion)
 Chuck Howe - ODOT (Biological Opinion)
 Julie Bunnell - ODOT (Biological Opinion)
 Art Martin - ODFW (Biological Opinion)
 Army Corps of Engineers (Biological Opinion)
 Oregon Division of State Lands

Endangered Species Act - Section 7
Consultation

BIOLOGICAL OPINION

West Birch Creek (SW 2nd St.) Bridge Replacement
Pendleton - John Day Highway
Umatilla County

Agency: Federal Highway Administration

Consultation Conducted By: National Marine Fisheries Service,
Northwest Region

Date Issued: May 3, 2000

Refer to: OSB2000-0028

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I. BACKGROUND

On January 24, 2000, the National Marine Fisheries Service (NMFS) received a Biological Assessment (BA) and request from the Federal Highway Administration (FHWA) for Endangered Species Act (ESA) section 7 informal consultation for a bridge replacement project over West Birch Creek located within the City of Pilot Rock, Umatilla County, Oregon. West Birch Creek joins East Birch Creek to form Birch Creek, which is a tributary of the Umatilla River. On March 16, 2000, NMFS responded with a letter on non-concurrence because the proposed riprap would result in a potential for take of listed steelhead. On March 21, 2000, NMFS received a request for formal consultation from FHWA. The FHWA is funding the proposed repair, and is the lead agency for the project. Oregon Department of Transportation (ODOT) has designed the project and will administer the construction contract. This Biological Opinion (Opinion) is based on the information presented in the BA and the result of the consultation process.

The FHWA/ODOT has determined that the Middle Columbia River (MCR) steelhead (*Oncorhynchus mykiss*) may occur within the project area. The MCR steelhead was listed under the ESA on March 25, 1999 (64 FR 14517). The proposed project is within MCR steelhead critical habitat, which was designated February 16, 2000 (65 FR 7764).

The FHWA/ODOT is proposing to replace the existing bridge with a new single span, concrete bridge along the same alignment as the existing bridge. The bridge is currently load restricted and needs to be replaced. In-water work will be required to remove one of the existing bridge abutments. Riprap is proposed along the east embankment to prevent erosion under the bridge.

The effects determination was made using the methods described in *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). The FHWA/ODOT determined that the proposed action was likely to adversely affect the MCR steelhead.

This Opinion reflects the results of the consultation process. The consultation process involved correspondence and communications to obtain additional information and clarify the BA. As appropriate, modifications to the proposal to reduce impacts to the indicated species were discussed and incorporated into the proposed action. This included increasing the span of the bridge to reduce impacts to riparian habitat, reducing the amount of riprap proposed, and adding riparian plantings.

The objective of this Opinion is to determine whether the action to replace the West Birch Creek bridge is likely to jeopardize the continued existence of the MCR steelhead or destroy or adversely modify its critical habitat.

II. PROPOSED ACTION

The FHWA/ODOT proposes to build a new bridge along the same alignment as the existing bridge. The current bridge is a 46-foot, single span, steel and wood bridge. The new bridge will be 52.5 feet long, and will be a single span, pre-cast concrete bridge. It will be 36 feet wide, to accommodate two travel lanes and two sidewalks. It will be curbed to prevent stormwater from draining directly into West Birch Creek.

The foundation on the east side will consist of a concrete pile cap supported on drilled pipe piles. Construction of this type of foundation does not require in-stream work; however, in-stream work will be required to remove the existing east abutment. The removal of the existing east foundation and abutment will be done during the Oregon Department of Fish and Wildlife (ODFW) in-water work period of July 1 to October 31.

The foundation on the west side will consist of a concrete footing founded on a basalt rock ledge located above the 25-year floodplain elevation. The basalt ledge will require minor excavation in preparation for the footing construction. This ledge is located near the top of the embankment and is above the 25-year floodplain elevation. Removal of the westside foundation will be done without any in-stream work.

Riprap is proposed along the east embankment to prevent erosion under the bridge. The riprap will extend 3 feet upstream and downstream of the wing walls, extending 70 feet laterally and 13 feet up the slope. It is estimated that 92 cubic yards of riprap will be used. Excavation within the channel will be required to form a toe-trench for the riprap. The contractor will do the excavation for the toe trench within the ODFW in-water work period, and will isolate the work area prior to any ground disturbance. The work area will be isolated using sand bags, sheet piles, or other method approved of by ODOT environmental staff. Biological bank stabilization (e.g. plantings) will be used on this bank above the ordinary high water elevation at the ends of the wing walls.

Removal of the Existing Bridge

Containment measures will be implemented to prevent debris from entering the two-year floodplain during removal of the existing bridge. Such measures may include a containment boom or containment diaper. In the event that incidental debris enters the stream, work will be stopped and the debris will be removed immediately. The bridge will be removed intact, thereby reducing the potential for falling debris. Removal of the existing eastside foundation will require in-water work as described above.

Construction Schedule

Construction activities below the two-year floodplain elevation will occur during the ODFW in-water work period of July 1 through October 31. Heavy equipment use below the two-year floodplain will be minimized to the greatest extent possible. Work within the two-year floodplain will occur for eight to ten hours per day for approximately 10 working days. It is possible that West Birch Creek will be

dry during much of the in-water work period. West Birch Creek commonly dries up, beginning in mid-July and sometimes extending as late as November. Activities below the two-year floodplain will occur “in the dry” to the extent possible. Proposed in-water work includes: (1) Construction of a berm or structure to provide isolation from the active flowing stream, as determined by the presence of flows; (2) removal of the existing foundation on the east bank; (3) excavation of a toe trench along the base of the east bank to key riprap in place; and (4) placement of riprap within the scour zone of the east bank.

Mitigation

To mitigate for impacts to riparian habitat as a result of this action, FHWA/ODOT will plant native willows of local origin along the streambank within the disturbance area. Two large cottonwoods, which will be removed during the project, will be provided to a local stream restoration project (to place large wood in the stream) within the basin. The delivery and condition of these trees will be coordinated with ODFW prior to removal to ensure that the trees remain in a usable state and meet ODFW standards. In addition, FHWA/ODOT will participate in the restoration of East Birch Creek, approximately 8 miles upstream of the action area. This work will be done in conjunction with the Blue Mountain Restoration Council, and coordinated through Tim Bailey, ODFW Northeast Region Fish Habitat Program Leader. The project will install and establish hardwood plantings along a 20 to 30-foot wide strip on each side of the creek, in addition to maintenance and monitoring of plantings for a period of three years. The FHWA/ODOT is providing funds to establish plants, and provide supplemental watering and monitoring. This site was chosen because it rates as a high priority by ODFW based on existing and potential habitat availability for salmonids.

III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT

The MCR steelhead Evolutionarily Significant Unit (ESU) was listed as threatened under the ESA by the NMFS on March 25, 1999 (64 FR 14517). Biological information concerning the MCR steelhead is found in Busby et al. (1995, 1996). Critical habitat was designated for the MCR steelhead on February 16, 2000 (65 FR 7764). Critical habitat for MCR steelhead includes the major Columbia River tributaries known to support this ESU including the Deschutes, John Day, Klickitat, Umatilla, Walla Walla, and Yakima Rivers, as well as the Columbia River and estuary. The adjacent riparian zone is included in this designation. The riparian zone is defined as the area that provides the following functions: Shade, sediment, nutrient or chemical regulation, streambank stability, input of large woody debris or organic matter, and others.

IV. EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical

habitat. This analysis involves the: (1) Definition of the biological requirements and current status of the listed species; and (2) evaluation of the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action; (2) the environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will destroy or adversely modify critical habitat it must identify any reasonable and prudent alternatives available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential biological elements necessary for juvenile and adult migration, spawning, and rearing of the MCR steelhead under the existing environmental baseline.

A. Biological Requirements

The first step the NMFS uses when applying the ESA section 7(a)(2) to listed steelhead is to define the species' biological requirements that are most relevant to each consultation. The NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list MCR steelhead for ESA protection and also considers new data available that is relevant to the determination.

The relevant biological requirements are those necessary for MCR steelhead to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful adult and juvenile migration, spawning and rearing. The current status of the MCR steelhead, based upon their risk of extinction, has not significantly improved since the species was listed. Trends in natural escapement in the Umatilla River have been highly variable since the mid to late 1970s, ranging from abundances that indicate relatively healthy runs to those that are a cause for concern. Estimates of increased proportions of hatchery fish in the Umatilla River Basin pose a risk to wild steelhead due to negative effects of genetic and ecological interactions with hatchery fish. The general pattern in abundance for this ESU shows populations at a low point during the late 1970s followed by an increasing trend leading to peak counts during the late 1980s. In recent years, all populations have declined to lows that are similar to counts observed in the late 1970s.

B. Environmental Baseline

The current range-wide status of the identified ESU may be found in Busby et al. (1995, 1996). The proposed action will occur within the range of MCR steelhead. The defined action area is the area that is directly and indirectly affected by the proposed action. The direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, stream hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect affects may occur throughout the watershed, where actions described in this opinion lead to additional activities, or affect ecological functions, contributing to stream degradation. As such, the action area for the proposed activities include the immediate portions of the watershed containing the project and those areas upstream and downstream that may reasonably be affected, temporarily or in the long term. For the purposes of this Opinion, the action area is defined as the streambed and riparian habitat of West Birch Creek. The action area extends 500 feet upstream and downstream of the bridge. Other areas of the Umatilla River watershed are not expected to be directly or indirectly impacted.

Steelhead are present in West Birch Creek. The Birch Creek watershed produces one third of the wild steelhead occurring in the Umatilla River Basin. The steelhead in Birch Creek are summer run fish. They tend to use tributary streams such as West Birch Creek for migration, spawning, and rearing. However, due to the lack of existing suitable habitat, it is unlikely that steelhead spawn in the project vicinity. Also, elevated water temperatures and the paucity of flow likely preclude the presence of steelhead from the project vicinity during the ODFW in-water work period of July 1 to October 31. Juvenile rearing occurs throughout the year in Birch Creek within areas with adequate water of sufficient quality. Adult steelhead may be present in the project vicinity from November through June, with the peak of their migration through the site occurring in April and May.

Steelhead spawning occurs through Birch Creek; however, spawning has not been documented within the City of Pilot Rock. The primary spawning areas within West Birch Creek exist upstream of the project site. The reach associated with the project site is important migration habitat for steelhead.

The Oregon Division of State Lands has designated West Birch Creek as Essential Salmon Habitat. West Birch Creek is on Oregon Department of Environmental Quality's (ODEQ) list of water quality limited segments (Clean Water Act §303(d)) for habitat modification, sedimentation, and temperature. West Birch Creek, in the vicinity of the action area, is confined to a deeply incised channel with steep banks. Residences are located near the top of its banks, which have been reinforced with riprap and gabions in various places through the City of Pilot Rock. Riffles dominate the habitat near the bridge, with some runs and small pools. The substrate is composed of gravel, cobbles, bedrock, and some sediment. A few mature cottonwood trees provide some shading along the streambanks. In addition, cottonwood trees rooted near the channel bottom create backwater areas that provide juvenile rearing habitat when flows are moderate to high. Woody debris is absent from the stream channel near the bridge. West Birch Creek, which is influenced by irrigation diversions, commonly dries up by mid-July.

Based on the best available information on the current status of MCR steelhead range-wide; the population status, trends, and genetics; and the poor environmental baseline conditions within the action area (as described in the BA), NMFS concludes that the biological requirements of the identified ESU within the action area are not currently being met. Numbers of MCR steelhead are substantially below historic numbers. Long-term trends are decreasing. Recent droughts and a change in ocean productivity have probably reduced run sizes, and are probably contributing to the decline in numbers. Degraded freshwater habitat conditions have also contributed to the decline. Use of the NMFS Matrix of Pathways and Indicators (NMFS 1996) identified the following habitat indicators as either at risk or not properly functioning within the action area: summer water temperatures, turbidity/sediment, physical barriers, substrate, large woody debris, pool frequency and quality, off-channel habitat, refugia, floodplain connectivity, drainage network increase, road density and location, and riparian reserves. Actions that do not maintain or restore properly functioning aquatic habitat conditions have the potential to jeopardize the continued existence of MCR steelhead.

V. ANALYSIS OF EFFECTS

A. Effects of Proposed Action

The effects determination in this Opinion was made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. This process is described in the document, *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). The effects of proposed actions are expressed in terms of the expected effect (restore, maintain, or degrade) on aquatic habitat factors in the project area.

The proposed action has the potential to cause the following impacts to threatened MCR steelhead or designated critical habitat:

1. In-water work will be needed to construct a berm to isolate the work area, to excavate the toe trench, place riprap, and remove the existing foundation on the east bank. These impacts will be both short term and long term. There will be a long term loss of riparian and stream habitat where the riprap is placed. Sediment entrainment will increase over the short term. It is unlikely that there will be direct mortality of steelhead because it is unlikely that steelhead will be present during the in-water work window due to low, or non-existent, flows and high water temperatures.
2. The in-water work has the potential to increase turbidity in the streams. Larger juvenile and adult salmon appear to be less affected by ephemerally high concentrations of suspended sediments that occur during most storms and episodes of snow melt than younger fish. However, other research demonstrates that feeding and territorial behavior can be disrupted by short-term exposure to turbid water. Localized increases of turbidity during in-water work will likely displace steelhead in the project area and disrupt normal behavior, if fish are present. Since fish are unlikely to be present, the turbidity plume would likely occur when flow increases in the channel. Impacts to fish at that time are expected to be temporary and localized.
3. The placement of riprap will displace natural riverbed substrate, and remove the existing riparian habitat. The placement of riprap is a significant habitat modification that may impair successful rearing of MCR steelhead, and could result in the “take” of listed MCR steelhead. Also, the warming effect of the rock will contribute to the existing high water temperature problem.
4. The wider bridge and placement of riprap will result in the loss of riparian vegetation. It is anticipated that two or three cottonwood trees would be removed. These trees provide shade, nutrient regulation, flow attenuation, leaf litter input, and other functions.
5. The removal of the existing bridge foundations may cause minor sediment increases due to embankment disturbance, and increased turbidity in the stream.
6. Staging activities during construction may result in a spill of hazardous materials. In addition, operation of machinery within and near the creeks will increase the risk of a hazardous spill in the creeks.

The effects of these activities on MCR steelhead and aquatic habitat factors will be limited by implementing construction methods and approaches that are included in project design and are intended to avoid or minimize impacts. These include:

1. All in-water work will be conducted during the ODFW in-water work period of July 1 through October 31. This will avoid impacts to migrating adult steelhead.
2. The erosion control measures identified in the project design will minimize the amount of sediment entrained in the creeks during the in-water construction period. An erosion control plan will be implemented that includes silt fences, sediment filters and routine monitoring. Proper implementation of erosion and sediment controls should be adequate

3. to minimize sediment inputs into the river until vegetation regrowth occurs. All sediment containment devices and erosion control devices will be inspected daily during the construction period to ensure that the devices are properly functioning.
4. The work site will be isolated during in-water work and fish passage will be provided during construction if water is flowing during the in-water work period.
5. All vegetation removed will be replaced at a 3:1 ratio (minimum) with native plant species. Willow will be planted within the action area.
6. Hazardous materials, including fuel, will not be stored or transferred within 165 feet of the two-year floodplain of any waterbody. No staging areas or parking areas will occur within 165 feet of the two-year floodplain. This will reduce the likelihood of a spilled toxic substance reaching the river. Spill containment booms will be maintained on-site at all times during construction operations and/or staging of equipment or fueling supplies. Fueling trucks will maintain a spill containment boom at all times.
7. Any equipment that is to come in contact with the flowing channel will be inspected daily for leaks prior to entering the flowing stream. External oil, grease, and mud will be removed from equipment using steam cleaning, and this will be done at least 165 feet away from the two-year floodplain. The equipment will be inspected by the project inspector prior to each entry into the flowing stream. Untreated wash and rinse water must be adequately treated prior to discharge into the stream.
8. Excavated and stored materials will be staged in stable upland sites. All applicable erosion control standards will be required during stockpiling of materials.

The action also includes habitat restoration activities to mitigate for the in-water work and impacts to riparian and streambed habitat. These are described on page 3 of this Opinion, and include providing the mature cottonwoods removed by the project to ODFW for habitat restoration work, and planting native hardwood species on East Birch Creek, located 8 miles upstream of the action area.

For the proposed action, the NMFS expects that the effects of the proposed project will tend to maintain each of the habitat elements over the long term, greater than two years. However, in the short term, a temporary increase in sediment entrainment and turbidity, and disturbance of riparian and in-stream habitat is expected. Fish may be killed or temporarily displaced during the in-water work. The potential net effect from the proposed action, including proposed plantings, is expected to be the maintenance and restoration of functional steelhead habitat conditions.

B. Effects on Critical Habitat

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat for MCR steelhead consists of all waterways below naturally impassable barriers including the project area. The adjacent riparian zone is also included in the designation. This zone is

defined as the area that provides the following functions: Shade, sediment, nutrient or chemical regulation, streambank stability, input of large woody debris or organic matter, and others.

The proposed actions will affect critical habitat. In the short term, a temporary increase of sediments and turbidity, and disturbance of riparian and in-stream habitat is expected. In the long term, a net loss of habitat will occur where the riprap is placed. However, riparian habitat in the basin will be maintained through the proposed plantings. Consequently, NMFS does not expect that the net effect of this action will diminish the long-term value of the habitat for survival of MCR steelhead.

C. Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The action area is defined as the streambed and riparian habitat of West Birch Creek. The action area extends 500 feet upstream and 500 feet downstream of the bridge. A wide variety of actions occur within the watersheds defined within the Opinion. NMFS is not aware of any significant change in non-Federal activities that are reasonably certain to occur within the action area. NMFS assumes that future private and State actions will continue at similar intensities as in recent years. Future FHWA/ODOT transportation projects are planned in the Umatilla River watershed. Each of these projects will be reviewed through separate section 7 consultations and are not considered cumulative effects.

VI. CONCLUSION

NMFS has determined based on the available information, that the proposed action is expected to maintain properly functioning stream habitat conditions within the action area over the long term. As such, the proposed action covered in this Opinion is not likely to jeopardize the continued existence of MCR steelhead. NMFS used the best available scientific and commercial data to apply its jeopardy analysis, when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline, together with cumulative effects. NMFS applied its evaluation methodology (NMFS 1996) to the proposed action and found that it would cause minor, short-term adverse degradation of anadromous salmonid habitat due to sediment impacts, in-water construction, and habitat loss through the placement of riprap. These effects will be mitigated over the long-term through the implementation of proposed project mitigation.

VII. REINITIATION OF CONSULTATION

Consultation must be reinitiated if: The amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; new information reveals effects of the action

may affect listed species in a way not previously considered; the action is modified in a way that causes an effect on listed species that was not previously considered; or, a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16). To re-initiate consultation, FHWA must contact the Habitat Conservation Division (Oregon Branch Office) of NMFS.

VIII. REFERENCES

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this opinion.

- Busby, P., S. Grabowski, R. Iwamoto, C. Mahnken, G. Matthews, M. Schiewe, T. Wainwright, R. Waples, J. Williams, C. Wingert, and R. Reisenbichler. 1995. Review of the status of steelhead (*Oncorhynchus mykiss*) from Washington, Idaho, Oregon, and California under the U.S. Endangered Species Act. 102 p. plus 3 appendices.
- Busby, P., T. Wainwright, G.J. Bryant, L.J. Liehr, R.S. Waples, and I.V. Lagomarsino. 1995. Status review of west coast steelhead from Washington, Idaho, Oregon, and California
- DEQ 1996. 303d List of Water Quality Limited Streams, as Required Under the Clean Water Act. Oregon Department of Environmental Quality (DEQ), Portland, Or. 1996.
(www.deq.state.or.us/wq/303dlist/303dpage.htm).
- DEQ 1998. Draft 303d List of Water Quality Limited Streams, as Required Under the Clean Water Act. Oregon Department of Environmental Quality (DEQ), Portland, Or. 1998.
(www.deq.state.or.us/wq/303dlist/303dpage.htm).
- DSL 1996. Essential Indigenous Salmonid Habitat, Designated Areas, (OAR 141-102-030). Oregon Division of State Lands. Portland, Or. 1996.
- NMFS 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon.
- ODFW 1996. Database -- Salmonid Distribution and Habitat Utilization, Arc/Info GIS coverages. Portland, Or. 1996. (rainbow.dfw.state.or.us/ftp/).

IX. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific

permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

A. Amount or Extent of the Take

The NMFS anticipates that the action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of MCR steelhead because of detrimental effects from increased sediment levels (non-lethal) and the placement of riprap which is considered a significant habitat modification that may impair behavior patterns (non-lethal). Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on steelhead habitat or population levels. Therefore, even though NMFS expects some low level of incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the biological assessment, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Opinion. The extent of the take is limited to within the area of project disturbance, extending 500 feet downstream and 500 feet upstream of the West Birch Creek bridge.

B. Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimizing take of the above species. Minimizing the amount and extent of take is essential to avoid jeopardy to the listed species.

1. To minimize the amount and extent of incidental take from construction activities at West Birch Creek bridge, measures shall be taken to limit the duration and extent of in-water work, and to time such work when the impacts to MCR steelhead are minimized.

2. To minimize the amount and extent of incidental take from construction activities in or near the creek, effective erosion and pollution control measures shall be developed and implemented throughout the area of disturbance. The measures shall minimize the movement of soils and sediment both into and within the river, and will stabilize bare soil over both the short term and long term.
3. To minimize the amount and extent of take from loss of in-stream habitat and to minimize impacts to critical habitat, measures shall be taken to minimize impacts to riparian and in-stream habitat, or where impacts are unavoidable, to replace or restore lost riparian and in-stream function.
4. To ensure effectiveness of implementation of the reasonable and prudent measures, all erosion control measures shall be monitored and evaluated both during and following construction and meet criteria as described below in the terms and conditions.

C. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, FHWA/ODOT must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. Implementation of the terms and conditions within this Opinion will further reduce the risk of impacts to fish and the Umatilla River. These terms and conditions are non-discretionary.

1. In-water work:
 - a. Passage shall be provided for both adult and juvenile forms of all salmonid species throughout the construction period. The FHWA/ODOT designs will ensure passage of fishes as per ORS 498.268 and ORS 509.605 (Oregon's fish passage guidance).
 - b. All work within the active channel of all anadromous fish-bearing systems, or in systems which could potentially contribute sediment or toxicants to downstream fish-bearing systems, will be completed within ODFW's in-water work period (July 1 to October 31). Any extensions of the in-water work period will first be approved by, and coordinated with, NMFS.
 - c. If water is present in the stream during the in-water work, all work will be done within a cofferdam (made out of sandbags, sheet pilings, inflatable bags, etc.), or similar structure, to minimize the potential for sediment entrainment. If no water is present, erosion control measures will be implemented that ensure no excess sediment is left on the stream bed or riparian area.
 - e. Alteration or disturbance of stream banks and existing riparian vegetation will be minimized. Where bank work is necessary, bank protection material (riprap and/ or plantings) shall be placed to maintain normal waterway configuration.

- f. During ODOT project design, ODOT will work to minimize the amount of riprap used. Where riprap is necessary, only clean, non-erodible, upland angular rock of sufficient size for long-term armoring will be employed. In areas with riprap installation, large riprap (class 350 metric minimum) will be used preferentially within the 2-year floodplain of systems, where this riprap would come into contact with actively flowing water, and where using larger riprap would not constrict the size of the active channel (larger rock sizes create larger interstitial spaces for juvenile salmonids). Placement of riprap will be performed during the low water period, and will be done "in the dry" as much as possible.
- g. During excavation, native streambed materials will be stockpiled out of the two-year floodplain for later project use. Once riprap has been placed in the trench, the native materials will be placed overtop of the riprap.

2. Erosion and Pollution Control

An Erosion Control Plan (ECP) will be prepared by ODOT or the contractor, and implemented by the Contractor. The ECP will outline how and to what specifications various erosion control devices will be installed to meet water quality standards, and will provide a specific inspection protocol and time response. Erosion control measures shall be sufficient to ensure compliance with applicable water quality standards and this Opinion. The ECP shall be maintained on site and shall be available for review upon request.

- a. Erosion Control measures shall include (but not be limited to) the following:
 - i. The contractor will have the following on hand: 50 weed-free straw bales, 150 feet of unsupported silt fence, and 25 biobags. The purpose is to address unexpected rain events, or failure of other measures to contain sediment.
 - ii. Temporary plastic sheeting for immediate protection of unvegetated areas (where seeding/ mulching are not appropriate), in accordance with ODOT's standard specifications.
 - iii. Erosion control blankets or heavy duty matting (e.g., jute) may be used on steep unstable slopes in conjunction with seeding or prior to seeding.
 - iv. Sills or barriers may be placed in drainage ditches along cut slopes and on steep grades to trap sediment and prevent scouring of the ditches. The barriers will be constructed from rock and straw bales.
 - v. Biobags, weed-free straw bales and loose straw may be used for temporary erosion control. Temporary erosion and sediment controls will be used on all exposed slopes during any hiatus in work on exposed slopes.

- b. Effective erosion control measures shall be in-place at all times during the contract. Construction within the 5-year floodplain will not begin until all temporary erosion controls (e.g., straw bales, silt fences) are in-place, downslope of project activities within the riparian area. Erosion control structures will be maintained throughout the life of the contract.
- c. All temporarily-exposed areas will be seeded and mulched. Erosion control seeding and mulching, and placement of erosion control blankets and mats (if applicable) will be completed on all areas of bare soil within 7 days of exposure within 150 feet of waterways, wetlands or other sensitive areas, and in all areas during the wet season (after October 1). All other areas will be stabilized within 14 days of exposure. Efforts will be made to cover exposed areas as soon as possible after exposure.
- d. All erosion control devices will be inspected during construction to ensure that they are working adequately. Erosion control devices will be inspected daily during the rainy season, weekly during the dry season, monthly on inactive sites. Work crews will be mobilized to make immediate repairs to the erosion controls, or to install erosion controls during working and off-hours. Should a control measure not function effectively, the control measure will be immediately repaired or replaced. Additional erosion controls will be installed as necessary.
- e. If soil erosion and sediment resulting from construction activities is not effectively controlled, the engineer will limit the amount of disturbed area to that which can be adequately controlled.
- f. Sediment will be removed from sediment controls once it has reached 1/3 of the exposed height of the control. Whenever straw bales are used, they will be staked and dug into the ground 12 cm. Catch basins shall be maintained so that no more than 15 cm of sediment depth accumulates within traps or sumps.
- g. Where feasible, sediment-laden water created by construction activity shall be filtered before it leaves the right-of-way or enters an aquatic resource area. Silt fences or other detention methods will be installed as close as possible to culvert outlets to reduce the amount of sediment entering aquatic systems.
- h. A supply of erosion control materials (e.g., straw bales and clean straw mulch) will be kept on hand to cover small sites that may become bare and to respond to sediment emergencies.

- i. All equipment that is used for in-stream work will be cleaned prior to entering the two-year floodplain. External oil and grease will be removed, along with dirt and mud. Untreated wash and rinse water will not be discharged into streams and rivers without adequate treatment. If seeded during the dry period, then the seed will be watered to ensure germination.
- j. On cut slopes steeper than 1:2, a tackified seed mulch will be used so that the seed does not wash away before germination and rooting occurs. In steep locations, a hydro-mulch will be applied at 1.5 times the normal rate.
- k. Material removed during excavation shall only be placed in locations where it cannot enter sensitive aquatic habitat. Conservation of topsoil (removal, storage and reuse) will be employed.
- l. Measures will be taken to prevent construction debris from falling into any aquatic habitat. Any material that falls into a stream during construction operations will be removed in a manner that has a minimum impact on the streambed and water quality.
- m. Project actions will follow all provisions of the Clean Water Act (40 CFR Subchapter D) and DEQ's provisions for maintenance of water quality standards not to be exceeded within the Umatilla River (OAR Chapter 340, Division 41). Toxic substances shall not be introduced above natural background levels in waters of the state in amounts which may be harmful to aquatic life. Any turbidity caused by this project shall not exceed DEQ water quality standards.
- n. The Contractor will develop an adequate, site-specific Spill Prevention and Countermeasure or Pollution Control Plan (PCP), and is responsible for containment and removal of any toxicants released. The Contractor will be monitored by the ODOT Engineer to ensure compliance with this PCP. The PCP shall include the following:
 - i. A site plan and narrative describing the methods of erosion/sediment control to be used to prevent erosion and sediment for contractor's operations related to disposal sites, borrow pit operations, haul roads, equipment storage sites, fueling operations and staging areas.
 - ii. Methods for confining and removing and disposing of excess concrete, cement and other mortars. Also identify measures for equipment washout facilities.
 - iii. A spill containment and control plan that includes: notification procedures; specific containment and clean up measures which will be available on site; proposed methods for disposal of spilled materials; and employee training for spill containment.

- iv. Measures to be used to reduce and recycle hazardous and non-hazardous waste generated from the project, including the following: the types of materials, estimated quantity, storage methods, and disposal methods.
 - v. The person identified as the Erosion and Pollutant Control Manager (EPCM) shall also be responsible for the management of the contractor's PCP.
- o. Areas for fuel storage, refueling and servicing of construction equipment and vehicles will be located at least 300 feet away from the 2-year floodplain of any waterbody. Overnight storage of wheeled vehicles must occur at least 300 feet away from the 2-year floodplain of any waterbody. Overnight storage of non-wheeled vehicles (e.g. crane, pile driver) is allowed within the 2-year floodplain during the in-water work window; however, to minimize the risk of fuel reaching the water, refueling of these vehicles must not occur after 1 pm (so the vehicles do not have full tanks overnight).
- p. Hazmat booms will be installed in all aquatic systems where:
- i. Significant in-water work will occur, or where significant work occurs within the 5-year floodplain of the system, or where sediment/toxicant spills are possible.
 - ii. The aquatic system can support a boom setup (i.e. the creek is large enough, low-moderate gradient).
- q. Hazmat booms will be maintained on-site in locations where there is potential for a toxic spill into aquatic systems. "Diapering" of vehicles to catch any toxicants (oils, greases, brake fluid) will be mandated when the vehicles have any potential to contribute toxic materials into aquatic systems.
- r. No surface application of nitrogen fertilizer will be used within 50 feet of any aquatic resource.

3. Riparian Habitat Protection Measures

- a. Boundaries of the vegetation clearing limits will be flagged by the project inspector. Ground will not be disturbed beyond the flagged boundary.
- b. Alteration of native vegetation will be minimized. Where possible, native vegetation will be clipped by hand so that roots are left intact. This will reduce erosion while still allowing room to work. No protection will be made of invasive exotic species (e.g. Himalayan blackberry), although no chemical treatment of invasive species will be used.

- c. Riparian understory and overstory vegetation removed will have a replacement rate of 1.5:1, at a minimum. Replacement will occur within the project vicinity where possible and within the Umatilla River watershed at a minimum. Any disturbed riparian area must be planted with trees and shrubs, at a minimum.
 - d. The FHWA/ODOT will construct fences along the highway that will exclude livestock from the highway as well as from newly planted replacement vegetation, as appropriate.
4. Monitoring
- a. Erosion control measures as described above in 2(d) shall be monitored. Erosion control and pollution control measures will be monitored daily to ensure adequate water quality. The contractor will provide the ODOT Project Manager a digital picture of the work site on a daily basis during the in-water work.
 - b. All significant riparian replant areas will be monitored to insure the following:
 - i. Finished grade slopes and elevations will perform the appropriate role for which they were designed.
 - ii. Plantings are performing correctly and have an adequate success rate (success rate necessary depends on the planting density but the goal is to have a functional riparian vegetation community).
 - c. Failed plantings and structures will be replaced, if replacement would potentially succeed. If not, plantings at other appropriate locations will be done.
 - d. A plant establishment period (3 year minimum) will be required for all riparian mitigation plantings. In extremely unstable or unproductive areas, ODOT may be released from the establishment period and develop a larger replanting area to compensate for this.
 - e. By December 31 of the year following construction, FHWA/ODOT shall submit to NMFS (Oregon Branch) a monitoring report with the results of the monitoring required in terms and conditions (4(a) to 4(c) above).